

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
16 June 2005 (16.06.2005)

PCT

(10) International Publication Number
WO 2005/054123 A1

(51) International Patent Classification⁷: **B82B 3/00**

(21) International Application Number: **PCT/KR2004/003109**

(22) International Filing Date: 29 November 2004 (29.11.2004)

(25) Filing Language: **Korean**

(26) Publication Language: **English**

(30) Priority Data:
10-2003-0086463 1 December 2003 (01.12.2003) **KR**

(71) Applicant (for all designated States except US): **KH CHEMICALS CO., LTD. [KR/KR]; 4th Floor, Hanmaeul B/D, 191-12 Bangi-Dong, Songpa-Gu, Seoul 138-050 (KR).**

(72) Inventor; and

(75) Inventor/Applicant (for US only): **KIM, Young Nam [KR/KR]; 101-208 Kolong Apt., 215 Bangi-Dong, Songpa-Gu, Seoul 138-050 (KR).**

(74) Agent: **KOREANA PATENT FIRM; Dong-Kyong Bldg. 824-19 Yoksam-Dong, Kangnam-Gu, Seoul 135-080 (KR).**

(81) Designated States (unless otherwise indicated, for every kind of national protection available): **AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.**

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): **ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).**

Published:
— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: **METHOD FOR THE PREPARATION OF HIGH PURITY CARBON NANOTUBES USING WATER**



(57) **Abstract:** The present invention provides a method for preparing high purity carbon nanotubes, in which, when carbon nanotubes are prepared by the recombination of carbons generated from a carbon source in the presence or absence of a catalyst as in arc-discharge, laser ablation, chemical vapor deposition or vapor phase continuous growth method, and the like, water of 1 to 2000 wt% based on a carbon source is added in the reaction system to prepare high purity carbon nanotubes. According to the present invention, the addition of water in the reaction system suppresses the soot formation resulting from the pyrolysis of a carbon source itself and induces the oxidation or reduction of the formed soot by water, and thereby high purity carbon nanotubes can be prepared economically and easily.

WO 2005/054123 A1